

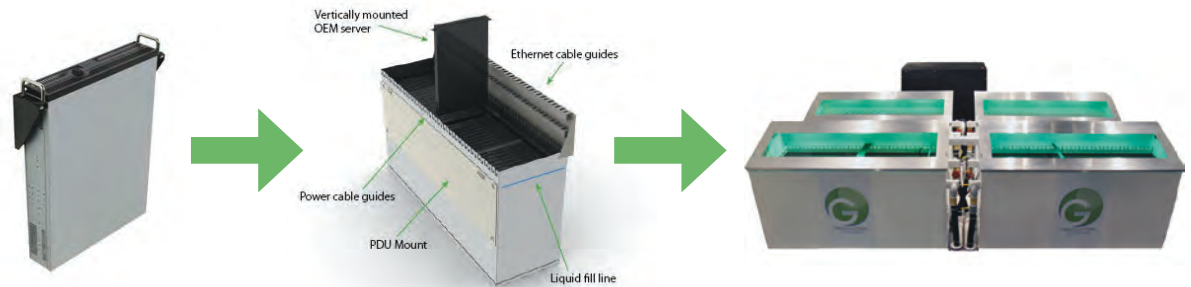
EXHIBIT D

The Clear Solution for Data Center Cooling™
Extreme cooling performance with low-cost dielectric fluid submersion cooling



THE CARNOTJET™ SYSTEM

featuring GreenDEF™ coolant



Any OEM Server

42U CarnotJet™ Rack

4 x 42U Racks with Pump Module

The **CarnotJet™** system is an end-to-end fluid submersion cooling system for rack-based OEM servers that uses GreenDEF™ coolant, a clear, odorless, non-conductive white mineral oil that has 1,200x more heat capacity by volume than air.



Server Warranty Provider



2010 Grant Awardee



A Disruptive Technology of the Year

1

ENERGY SAVINGS

- 40-50% less overall data center power consumption
- 95% less cooling power
- 10-20% less server power (removal of internal server fans)

2

COST SAVINGS

- Immediate savings for Greenfield installations
- No CRACs or Chillers and smaller generators/UPS
- 1-3 year payback for most retrofits on energy savings alone

3

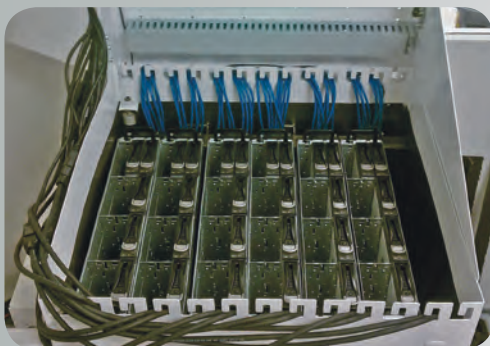
PERFORMANCE

- Supports up to 100 kW per 42U Rack

4

HEAT RECAPTURE

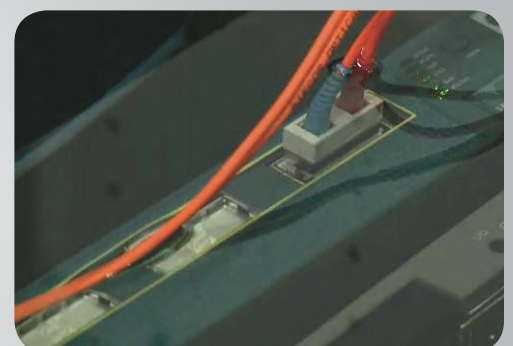
- Recover and reuse server heat in the form of hot water



13U Evaluation Unit loaded with trays



Servers submerged in GreenDEF™ coolant



Fiber optic switch installed in CarnotJet™ system



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SYSTEM REQUIREMENTS

Servers

Any rack-mounted server from any OEM with only three simple modifications:

- Remove server fans
- Encapsulate hard drives
- Replace thermal grease with foil alternative

Supports high density: blades, trays, GPUs, etc.

Heat Rejection

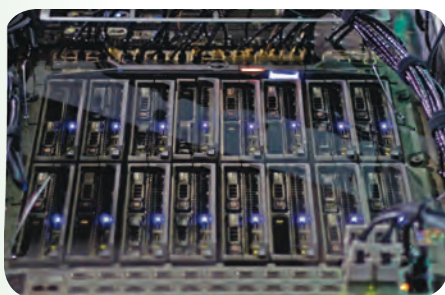
Use evaporative cooling tower, return side of existing chill loop, geothermal loop, or cooling pond

SERVER
WARRANTIES BY



SIGNATURE
TECHNOLOGY
GROUP

SINGLE RACK INSTALLATION



INSTALL LOCATION	Loading dock
CLIMATE CONTROL	Unconditioned
RACK SIZE	42U
TOTAL RACK AREA	~1.2 m ²
HEAT LOAD CAPACITY	40 kW
SERVERS INSTALLED	Dell M1000e
SECONDARY CONTAINMENT	Modular
HEAT EXCHANGE METHOD	Evaporative cooling tower

SYSTEM SPECIFICATIONS

Standard System Contents

- 42U Rack/Tank
- Pumps, filters, heat exchangers, and instrumentation
- Control Software with real-time monitoring and diagnostics, with email and SNMP Alerts

Cooling Power per Rack

- Any power density available up to 100 kW per rack
- Sized to meet customer specifications

Evaluation Unit

- 13U Evaluation units available to lease for trials
 - Completely self contained
 - Plug and play

FOUR RACK CARNOTJET™ SYSTEM INSTALLATION



INSTALL LOCATION	Production space
ROOM/CLIMATE CONTROL	Comfort cooling
RACK SIZE	4 x 42U
TOTAL RACK AREA	~11.2 m ²
HEAT LOAD CAPACITY	100 kW (25 kW per rack)
SERVERS INSTALLED	Various
SECONDARY CONTAINMENT	Berm/catwalk system
HEAT EXCHANGE METHOD	Evaporative cooling tower